PureMedia 4K Fiber Optic Extenders Owner's Manual

PM-FT101-U : PureMedia HDMI to Fiber Optic (1 LC) Extender Transmitter

PM-FR101-U : PureMedia Fiber Optic (1 LC) to HDMI Extender Receiver

PM Series Fiber Optic Standalone and Wall-plate type Extender

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Chapter 1. Introduction

1.1 Safety Precautions

When using and installing Dtrovision PureLink product, adhere to the following basic safety precautions.

- Read and understand all instructions before using and installing this product.
- The safety and operating instructions should be retained for future reference.
- Always use the correct external power supply (indicated on the product label) when operating this unit.
- Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Mishandling of this product may lead to a fire or explosion hazard.
- Do not place any heavy objects or equipment on top of the product.
- Keep away from wet, magnetic, and flammable surfaces or substances.
- Air vents should be kept clean and unobstructed at all times.
- Any external impact may cause damage to the operation of this unit.
- Be sure this product is properly grounded (earthed) in order to prevent the risk of electrical shock.
- Turn off and unplug power before adding or removing Input/Output Boards.
- Input/Output Boards may be damaged when they are replaced with power turned on.
- Use surge protectors and/or AC line conditioners when powering this product.
- Only use a fuse(s) with the correct fuse rating in your enclosure.
- Make sure the product is on or attached to a stable surface.

If you experience any malfunctioning of product or have any question as to operation of the product, please contact our customer service center.

Dtrovision LLC
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Welcome!

Congratulations on your purchase of the PureLink PureMedia Fiber Optic (1 LC) extender. This manual contains information that will assist you in installing and operating the product.

1.2 Product Introduction

Pure fiber optic cable for video, audio, and control signal

PureMedia Fiber Optic (1 LC) extension system is designed to transmit video (DVI, HDMI or VGA), audio (Embedded or analog stereo audio), control (RS232) over a **pure LC to LC fiber optic cable** for long distance up to 32,808ft (10km). This optical connection enables to minimize electrical noise and EMI free that is ideal for long distance extension of high definition HDMI/DVI or VGA video signal, HDMI embedded audio or 3.5mm stereo analog audio, and control signal.

1.3 Package Contents

Please make sure all of the following items are included in the package:

1) One of PM-FT101-U, FT102-U, FT103-U Transmitter Module or
2) One of PM-FR101-U, FR102-U, FR103-U Receiver Module
3) 3pin Phoenix Connector for RS-232
4) DC 12V Power Supply Unit with a Power Cord
5) User's Manual
6) Option Product: TWF1 (1 LC Fiber Optic Cable with TotalWire Technology)
   PI (PureLink's PureInstall HDMI cable with TotalWire Technology)

Chapter 2. Features and Specifications

2.1 Features

- **Zero loss & Zero noise delivery**
  Zero loss & zero noise delivery of digital high definition video and audio signal using Fiber optic connection, PureMedia Fiber Optic (1 LC) extender delivers HD signals over single fiber optic cables without loss or digital interference maintaining the clarity and colors. Noise cancellation and error correction logic enhances HD video and audio signals over long distance.

- **Compact and Robust enclosure design**
  Compact and robust enclosure design allows for discreet installation behind a flat-panel display.

- **Uncompressed high definition video up to 4K2K@30Hz@48bits and 3D**

- **Bi-Directional RS232 interface**
  Commands and data can flow in both directions via RS232, allowing status requests and control of the destination unit.

- **Max. Data Rate- 10.2 Gbps**

- **HDCP (High-bandwidth Digital Content Protection) Support**

- **Audio transmission support LPCM 7.1@192KHz, Dolby TrueHD, DTS-HD MA**

- **Transmitters directly compatible with PureMedia Fiber Optic Input Board**
  PureMedia Fiber Optic (1 LC) Transmitters can send signal directly to PureMedia Matrix Switcher's Fiber Optic Input Board, eliminating the need of matching Receiver.

- **Receivers directly compatible with PureMedia Fiber Optic Output Board**
  PureMedia Fiber Optic (1 LC) Receivers can receive signal directly from PureMedia Matrix Switcher's Fiber Optic Output Board, eliminating the need of matching Transmitter.

- **HDMI v1.4, 3D Support**
  Adopting latest HDMI version 1.4 enables to support 3D, 48-Bit Deep Color, 4K x 2K resolution and 7.1 Channel Dolby TruHD & DTS MasterHD

- **Real Time EDID**
  PureLink's real time EDID features failsafe, constant and continuous EDID for source devices.

- **Various Transmitter and Receiver Choices**
  There are three different types of transmitters and three different types of receivers to make today's sophisticated digital AV environment simple and flexible.

- **RF 1RU Rack Mountable Version Available**
  PM-FT101-U, PM-FT102-U, PM-FR101-U, and PM-FR102-U are also available in PureLink's popular RF Rack Mountable Extension Center Modules.

- **Analog Support (VGA and Component)**
  On PM-FT102-U and PM-FT103-U series, there are two video inputs; DVI/HDMI and VGA, which are selectable via front panel button or serial command when it is connected PureMedia Matrix Switcher. VGA port is designed to take component (YPbPr) signal with appropriate adapters or cables.

- **USB Firmware Update**

- **Long Distance Transmission up to 32,808ft (10 km)**

- **Plug-N-Play**

2.2 Specifications

Transmitters :

PM-FT101-U : Standalone type

Input : HDMI + 3.5mm stereo audio (x1) + RS-232

Output : Fiber Optic (1 LC)

32,808ft, Compatible with PM-FIS4-U input board

PM-FT101-U : PureMedia HDMI to Fiber Optic (1 LC) Extender Transmitter

Front Connection Ports:

Power S/W: Power On/Off switch

Status LED: Video signal presence indicator

Firmware: USB firmware update port

Back Connection Ports:

HDMI/DVI In: HDMI/DVI input port

Audio In: Stereo audio input port

Optical: 1 LC Fiber Optic output port

RS-232: RS-232 communication port

DC In: DC 12V Power port

Model Name	PM-FT101-U (HDMI version), PM-FT102-U-D (DVI version)
Input Signal	DVI / HDMI (TMDS) 3.5mm stereo audio
Output Signal	Fiber Optical Output (> -10dbm (after 32,808ft (10km) transmission))
Extinction Ratio	> 4db (after 32,808ft (10km) transmission)
Data Transmission Speed	3.4 Gbps/ch, Total 10.2 Gbps Max

Supporting Display Resolutions	PC: VGA ~ WUXGA (up to 1920 x 1200 @60Hz) HDTV: 480i ~ 1080p, Up to Ultra HD 4K 4096 x 2160 @24/25/30Hz (RGB/YCbCr 4:4:4 8 bits, YCbCr 4:2:2 8/10/12 bits) 4096 x 2160 @50/60Hz (YCbCr 4:2:0 8 bits)
Max. Distance	Single Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 32,808 ft (10km) Multi Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 1,650 ft (500m)
Connector Type	DVI 29P/HDMI 19P Female (x 1) 3.5mm Stereo Jack 1 LC Optical Connector 3P /3.5MM Terminal Block (for Power) 3P /3.5MM Terminal Block (for RS-232) Mini USB (for firmware update)
Conformations	DVI 1.0 , HDMI 1.4b
HDCP Compliance	Yes, HDCP version 2.0
Power Rating	DC +12V, 4Watts Max
Dimension (W x D x H)	5.75" x 4.5" x 1.25" (144.78 x 114.3 x 31.75 mm)
Weight	0.5 lbs (0.23 Kg)

PM-FT102-U : Standalone type (2x1 switch)

Input : Selectable HDMI/DVI or VGA + 3.5mm stereo audio (x1) + RS-232

Output : Fiber Optic (1 LC)

32,808ft, Compatible with PM-FIS4-U input board

PM-FT102-U : PureMedia HDMI/VGA to Fiber Optic (1 LC) Extender Transmitter

Front Connection Ports:

Power S/W: Power On/Off switch

Status LED: Video signal presence indicator

HDMI LED: HDMI signal indicator

VGA LED: VGA (or component) signal indicator

VGA EDID : EDID save button for VGA input port

Firmware: USB firmware update port

Back Connection Ports:

HDMI/DVI In: HDMI/DVI input port

VGA In: VGA (or component) input port

Audio In: Stereo audio input port

Optical: 1 LC Fiber Optic output port

RS-232: RS-232 communication port

DC In: DC 12V Power port

Model Name	PM-FT102-U (HDMI version), PM-FT102-U-D (DVI version)
Input Signal	DVI / HDMI (TMDS), VGA (supports YPbPr component) 3.5mm stereo audio
Output Signal	Fiber Optical Output (> -10dbm (after 32,808ft (10km) transmission))
Extinction Ratio	> 4db (after 32,808ft (10km) transmission)

Data Transmission Speed	3.4 Gbps/ch, Total 10.2 Gbps Max
Supporting Display Resolutions	PC: VGA ~ WUXGA (up to 1920 x 1200 @60Hz) HDTV: 480i ~ 1080p, Up to Ultra HD 4K 4096 x 2160 @24/25/30Hz (RGB/YCbCr 4:4:4 8 bits, YCbCr 4:2:2 8/10/12 bits) 4096 x 2160 @50/60Hz (YCbCr 4:2:0 8 bits)
Max. Distance	Single Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 32,808 ft (10km) Multi Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 1,650 ft (500m)
Connector Type	DVI 29P/HDMI 19P Female VGA Female 3.5mm Stereo Jack 1 LC Optical Connector 3P /3.5MM Terminal Block (for Power) 3P /3.5MM Terminal Block (for RS-232) Mini USB (for firmware update)
Conformations	DVI 1.0 , HDMI 1.4b
HDCP Compliance	Yes, HDCP version 2.0
Power Rating	DC +12V, 4Watts Max
Dimension	5.75" x 4.5" x 1.75" (144.78 x 114.3 x 44.45 mm)
Weight	1.0 lbs (0.46 Kg)

PM-FT103-U : Wall plate type (2x1 switch), 2 Gang Decora style, white finish.

Input : Selectable HDMI or VGA + 3.5mm stereo audio (x1) + RS-232

Output : Fiber Optic (1 LC)

32,808ft, Compatible with PM-FIS4-U input board

PM-FT103-U : PureMedia HDMI/VGA to Fiber Optic (1 LC) Extender Transmitter, Wall plate

Front Connection Ports:

Power LED: Power status indicator

Status LED: Video signal presence indicator

HDMI LED: HDMI signal indicator

VGA LED: VGA (or component) signal indicator

VGA EDID: EDID save button for VGA input port

HDMI/DVI In: HDMI/DVI input port

VGA In: VGA (or component) input port

Audio In: Stereo audio input port

RS-232: RS-232 communication port

Back Connection Ports:

1 LC: Fiber Optic Output Port

DC In: DC 12V Power port

Model Name	PM-FT103-U
Input Signal	DVI / HDMI (TMDS), VGA (supports YPbPr component) 3.5mm stereo audio
Output Signal	Fiber Optical Output (> -10dbm (after 32,808ft (10km) transmission))
Extinction Ratio	> 4db (after 32,808ft (10km) transmission)
Data Transmission Speed	3.4 Gbps/ch, Total 10.2 Gbps Max
Supporting Display Resolutions	PC: VGA ~ WUXGA (up to 1920 x 1200 @60Hz) HDTV: 480i ~ 1080p, Up to Ultra HD 4K 4096 x 2160 @24/25/30Hz (RGB/YCbCr 4:4:4 8 bits, YCbCr 4:2:2 8/10/12 bits) 4096 x 2160 @50/60Hz (YCbCr 4:2:0 8 bits)
Max. Distance	Single Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p : 6,600 ft (2km) Multi Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p : 1,650 ft (500m)
Connector Type	HDMI 19P Female VGA Female 3.5mm Stereo Jack 1 LC Optical Connector 3P /3.5MM Terminal Block (for Power) 3P /3.5MM Terminal Block (for RS-232)
Conformations	DVI 1.0 , HDMI 1.4b
HDCP Compliance	Yes, HDCP version 2.0
Power Rating	DC +12V, 4Watts Max
Dimension	2 Gang Decora style, actual dimension will be updated
Weight	0.5 lbs (0.23 Kg)

Transmitter Input Signal Characteristics

Input Signal	Description	Unit	Min	Typical	Max	Remarks
DC input	DC Voltage	VDC	11.5	12	12.5	
	Power Consumption	Watts	13.5	13.8	14.4	

VGA input (15Pin)	Video Level	mVp-p		700		
DVI input (29Pin DVI)	Differential Output	mVp-p	450	510	570	TMDS Interface
HDMI input (19Pin)	Differential Output	mVp-p	400		600	TMDS Interface

Transmitter Output Signal Characteristics

Output Signal	Symbol	Unit	Min	Typical	Max	Remarks
Emission Center Wavelength	Λc1 Λc2	nm	1260 1480	1310 1550	1360 1580	

Analog Video Signal Supported Resolution

- 640*480 60Hz	- 1024*768 60Hz	- 720*480p 60Hz
- 640*480 72Hz	- 1024*768 70Hz	- 720*576p 50Hz
- 640*480 75Hz	- 1024*768 75Hz	- 1280*720p 60Hz
- 640*480 85Hz	- 1024*768 85Hz	- 1280*720p 50Hz
- 800*600 56Hz	- 1280*1024 60Hz	- 1920*1080i 60Hz
- 800*600 60Hz	- 1280*1024 75Hz	- 1920*1080i 50Hz
- 800*600 72Hz	- 1280*1024 85Hz	- 1920*1080p 60Hz
- 800*600 75Hz	- 1600*1200 60Hz	- 1920*1080p 50Hz
- 800*600 85Hz	- 1920*1200 60Hz	

Digital Video Signal Supported Resolution:

- PC resolution: VGA ~ WUXGA @ 60Hz (1920 x 1200 @ 60Hz)
- HDTV resolution: 480i ~ 1080p @ 60Hz, 4K2K

PureMedia Fiber Optic Transmitter Compatibility Chart

Transmitters / Compatibility	PM-FT101-U	PM-FT102-U	PM-FT103-U
PureMedia Modular Extender Compatibility	PM-FR101-U PM-FR102-U PM-FR103-U	PM-FR101-U PM-FR102-U PM-FR103-U	PM-FR101-U PM-FR102-U PM-FR103-U
PureMedia RF Extender Compatibility	PM-FR101-U-RF PM-FR102-U-RF	PM-FR101-U-RF PM-FR102-U-RF	PM-FR101-U-RF PM-FR102-U-RF
PureMedia Matrix Board Compatibility	PM-FIS4-U	PM-FIS4-U	PM-FIS4-U

Receivers :

PM-FR101-U : Standalone type.

Input : Fiber Optic (1 LC)

Output : HDMI + 3.5mm stereo audio + RS-232

32,808ft, Compatible with PM-FOS4-U output board

PM-FR101-U : PureMedia Fiber Optic (1 LC) to HDMI Extender Receiver

Front Connection Ports:

Power S/W: Power On/Off switch

Status LED: Video signal presence indicator

Firmware: USB firmware update port

Back Connection Ports:

HDMI/DVI Out: HDMI/DVI output port

Audio Out: Stereo audio output port

Optical: 1 LC Fiber Optic output port

RS-232: RS-232 communication port

DC In: DC 12V Power port

Model Name	PM-FR101-U (HDMI version), PM-FR101-U-D (DVI version)
Input Signal	Fiber Optical Output (> -10dbm (after 32,808ft (10km) transmission))
Extinction Ratio	> 4db (after 32,808ft (10km) transmission)
Output Signal	DVI / HDMI (TMDS) 3.5mm stereo audio
Data Transmission Speed	3.4 Gbps/ch, Total 10.2 Gbps Max
Supporting Display Resolutions	PC: VGA ~ WUXGA (up to 1920 x 1200 @60Hz) HDTV: 480i ~ 1080p, Up to Ultra HD 4K 4096 x 2160 @24/25/30Hz (RGB/YCbCr 4:4:4 8 bits, YCbCr 4:2:2 8/10/12 bits) 4096 x 2160 @50/60Hz (YCbCr 4:2:0 8 bits)
Max. Distance	Single Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 32,808 ft (10km) Multi Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 1,650 ft (500m)
Connector Type	DVI 29P/HDMI 19P Female 3.5mm Stereo Jack 1 LC Optical Connector 3P /3.5MM Terminal Block (for Power) 3P /3.5MM Terminal Block (for RS-232) Mini USB (for firmware update)
Conformations	DVI 1.0 , HDMI 1.4b
HDCP Compliance	Yes, HDCP version 2.0
Power Rating	DC +12V, 2.0 Watts Max
Dimension	5.75" x 4.5" x 1.25" (144.78 x 114.3 x 31.75 mm)

Weight	0.5 lbs (0.23 Kg)

PM-FR102-U : Standalone type. Built-in auto scaler

Input : Fiber Optic (1 LC)

Output : HDMI + 3.5mm stereo audio + RS-232

32,808ft, Compatible with PM-FOS4-U output board

PM-FR102-U : PureMedia Fiber Optic (1 LC) to HDMI Extender Receiver w/Scaling

Front Connection Ports:

TBA

Back Connection Ports:

TBA

Model Name	PM-FR102-U (HDMI version), PM-FR102-U-D (DVI version)
Input Signal	Fiber Optical Output (> -10dbm (after 32,808ft (10km) transmission))
Extinction Ratio	> 4db (after 32,808ft (10km) transmission)
Output Signal	DVI / HDMI (TMDS) 3.5mm stereo audio
Data Transmission Speed	3.4 Gbps/ch, Total 10.2 Gbps Max
Supporting Display Resolutions	PC: VGA ~ WUXGA (up to 1920 x 1200 @60Hz) HDTV: 480i ~ 1080p,

	Up to Ultra HD 4K 4096 x 2160 @24/25/30Hz (RGB/YCbCr 4:4:4 8 bits, YCbCr 4:2:2 8/10/12 bits) 4096 x 2160 @50/60Hz (YCbCr 4:2:0 8 bits)
Max. Distance	Single Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 32,808 ft (10km) Multi Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 1,650 ft (500m)
Connector Type	DVI 29P/HDMI 19P Female 3.5mm Stereo Jack 1 LC Optical Connector 3P /3.5MM Terminal Block (for Power) 3P /3.5MM Terminal Block (for RS-232) Mini USB (for firmware update)
Conformations	DVI 1.0 , HDMI 1.4b
Image Scaler	
HDCP Compliance	Yes, HDCP version 2.0
Power Rating	DC +12V, 4 Watts Max
Dimension	TBD
Weight	TBD
User Control	6 Buttons Control (LCD and OSD)

PM-FR103-U : Wall plate type, 2 Gang Decora style, white finish.

Input : Fiber Optic (1 LC)

Output : HDMI + RS-232

32,808ft, Compatible with PM-FOS4-U output board

PM-FR103-U : PureMedia Fiber Optic (1 LC) to HDMI Extender Receiver, Wall plate

Front Connection Ports:

Power LED: Power status indicator

Status LED: Video signal presence indicator

HDMI Out: HDMI output port

RS-232: RS-232 communication port

Back Connection Ports:

Optical: 1 LC Fiber Optic Input port

DC In: DC 12V Power port

Model Name	PM-FR103-U
Input Signal	Fiber Optical Output (> -10dbm (after 32,808ft (10km) transmission))
Extinction Ratio	> 4db (after 32,808ft (10km) transmission)

Output Signal	DVI / HDMI (TMDS) 3.5mm stereo audio
Data Transmission Speed	3.4 Gbps/ch, Total 10.2 Gbps Max
Supporting Display Resolutions	PC: VGA ~ WUXGA (up to 1920 x 1200 @60Hz) HDTV: 480i ~ 1080p, Up to Ultra HD 4K 4096 x 2160 @24/25/30Hz (RGB/YCbCr 4:4:4 8 bits, YCbCr 4:2:2 8/10/12 bits) 4096 x 2160 @50/60Hz (YCbCr 4:2:0 8 bits)
Max. Distance	Single Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 32,808 ft (10km) Multi Mode Fiber: 1920 x 1200 @ 60Hz or at 1080p, Ultra HD 4K : 1,650 ft (500m)
Connector Type	HDMI 19P Female 3.5mm Stereo Jack 1 LC Optical Connector 3P /3.5MM Terminal Block (for Power) 3P /3.5MM Terminal Block (for RS-232)
Conformations	DVI 1.0 , HDMI 1.4b
HDCP Compliance	Yes, HDCP version 2.0
Power Rating	DC +12V, 2 Watts Max
Dimension	2 Gang Decora style, actual dimension will be updated
Weight	0.5 lbs (0.23 Kg)

Receiver Input Signal Characteristics

Input Signal	Description (Symbol)	Unit	Min	Typical	Max	Remarks
DC input	DC Voltage	VDC	11.5	12	12.5	
	Power Consumption	Watts	13.5	13.8	14.4	
Emission Center Wavelength	Λc1 Λc2	nm	1260 1480	1310 1550	1360 1580	

Receiver Output Signal Characteristics

Output Signal	Description	Unit	Min	Typical	Input Signal	Remarks
HDMI Output (19Pin)	Differential Output	mVp-p	400		600	TMDS Interface

PureMedia Fiber Optic Receiver Compatibility Chart

Receivers / Compatibility	PM-FR101-U	PM-FR102-U	PM-FR103-U
PureMedia Modular Extender Compatibility	PM-FT101-U PM-FT102-U PM-FT103-U	PM-FT101-U PM-FT102-U PM-FT103-U	PM-FT101-U PM-FT102-U PM-FT103-U
PureMedia RF Extender Compatibility	PM-FT101-U-RF PM-FT102-U-RF	PM-FT101-U-RF PM-FT102-U-RF	PM-FT101-U-RF PM-FT102-U-RF
PureMedia Matrix Board Compatibility	PM-FOS4-U	PM-FOS4-U	PM-FOS4-U

Operation and Reliability Specification

1. Operating Environment
   Temperature : 50F ~ 104F (10℃~ 40℃)
   Humidity : 10% ~ 80%
   Altitude : 3,000m Max.

2. Transit Environment
   Temperature : -13F ~ 140F (-25℃~ 60℃)
   Humidity : 5% ~ 95%
   Altitude : 15,000m Max.

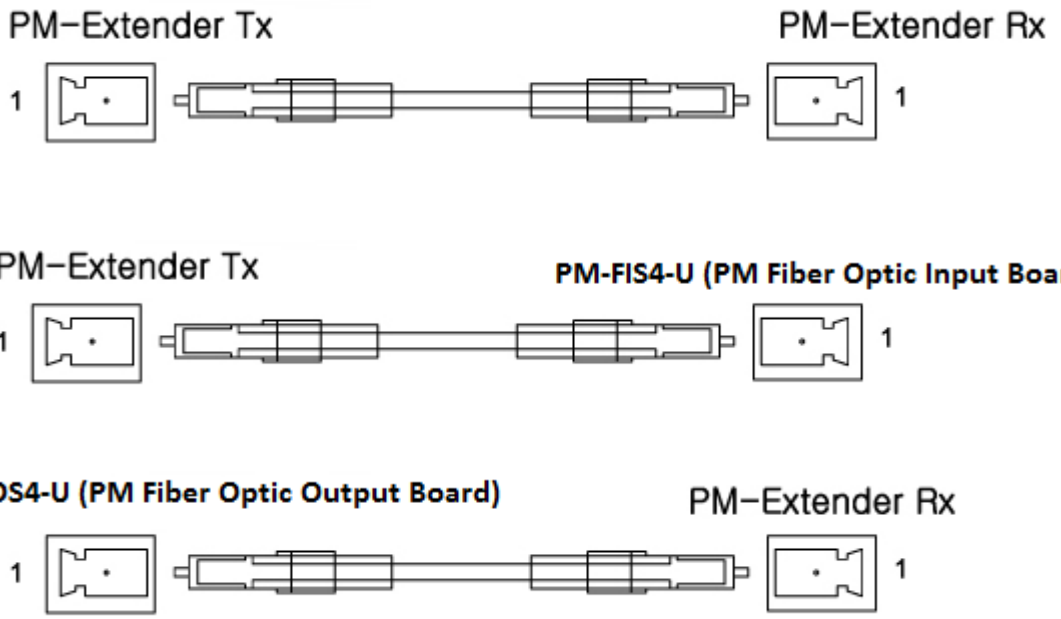
3. Storage Environment
   Temperature : -4F ~ -49F (-20℃~ 45℃)
   Humidity : 5% ~ 95%
   Altitude : 3,000m Max.

4. Reliability
   MTBF: 90% at over 50,000 hours aging test
   In compliance with LCD Monitor reliability test standard

Chapter 3. Installation and Operating Instruction

3.1 Installation Connection Instruction

1. Turn off both the video source and the display before connecting any cables
2. Connect LC terminated fiber optic cable between transmitter and receiver according to the picture below;



3. Connect DVI, HDMI, or VGA cable between the source and the transmitter AND the receiver (or PM-FIS4-U, PureMedia Fiber Optic input board, and PM-FOS4-U, PureMedia Fiber Optic output board) and the display
4. Connect the power supply unit to both transmitter and receiver module
5. Turn on display
6. Turn on source

3.2 Operating Instruction

EDID

PM series Extenders provide real time EDID management system; easy and fail safe way to handle EDID.

What's EDID?

Extended **D**isplay **I**dentification **D**ata (**EDID**) is an information set that digital display provides to describe its capabilities to a Video source. Video source will know what kinds of displays are connected and it will determine which resolution to Output according to the EDID information received from the display.

The EDID normally includes manufacturer name and serial number, sets of capable resolution including native resolution, supported timing, pixel mapping data (for digital displays only) and etc.

In a digital connectivity environment; in order to support the maximum resolution of connected monitor, EDID handshake is a critical because improper EDID handshake between sources to the display will result in no image on the display.

EDID handshake may sound simple; however, with multiple peripheral devices within the chain, display's EDID information easily get lost or blocked while it is traveling to the source device.

PureMedia Extenders provide Auto EDID management system to meet today's sophisticated digital connectivity integration environment.

3.3 Cable Termination

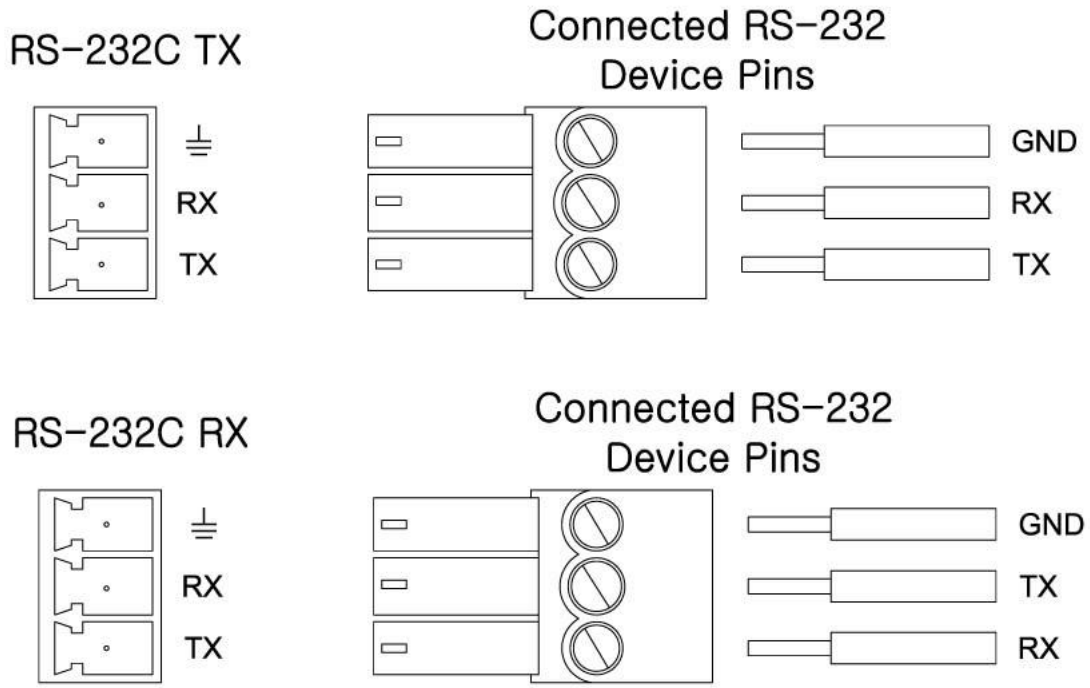
- **RS-232 cable**

RS-232 Cable Termination

3-pin Phoenix connector is used for RS-232 communication between PureMedia extender Tx/Rx to the devices that are attached.

Pin	RS-232
1	Tx
2	Rx
3	Ground

* Pinout from the left



Connector Pin Assignment

DC Input

Part Number	Pin No.	Description	Remark
ECH350R-03	1	VCC(DC12V)	
	2	GND	
	3	GND	

RS232

Part Number	Pin No.	Description	Remark
ECH350R-03	1	TXD	
	2	RXD	
	3	GND	

DVI-D Input & Output

Part Number	Pin No.	Description	Remark
DVI-D 29pin	1	TMDS DATA 2M	
	2	TMDS DATA 2P	
	3	TMDS DATA 2/4 Shield	
	4	TMDS DATA 4M(N.C)	
	5	TMDS DATA 4P(N.C)	
	6	DDC Clock	

	7	DDC Data	
	8	N.C	
	9	TMDS DATA 1M	
	10	TMDS DATA 1P	
	11	TMDS DATA 1/3 Shield	
	12	TMDS DATA 3M(N.C)	
	13	TMDS DATA 3P(N.C)	
	14	5V	
	15	GND	
	16	Hot Plug Detect	
	17	TMDS DATA 0M	
	18	TMDS DATA 0P	
	19	TMDS DATA 0/5 Shield	
	20	TMDS DATA 5M(N.C)	
	21	TMDS DATA 5P(N.C)	
	22	TMDS DATA Clock Shield	
	23	TMDS Clock P	
	24	TMDS Clock M	

HDMI Input & Output

Part Number	Pin No.	Description	Remark
HDMI 19pin	1	TMDS DATA 2P	
	2	TMDS DATA 2 Shield	
	3	TMDS DATA 2M	
	4	TMDS DATA 1P	
	5	TMDS DATA 1 Shield	
	6	TMDS DATA 1M	
	7	TMDS DATA 0P	
	8	TMDS DATA 0 Shield	
	9	TMDS DATA 0M	
	10	TMDS Clock P	
	11	TMDS Clock Shield	
	12	TMDS Clock M	
	13	CEC	
	14	RESERVED	
	15	DDC Clock	
	16	DDC DATA	
	17	GND	

	18	+5v	
	19	Hot Plug Detect	

Chapter 4. Additional Information

Manufacturer's Warranty (5-Year)

PureLink warrants this PureMedia products to be free from defects in workmanship and materials, under normal use and service, for a period of two (2) year from the date of purchase from PureLink or its authorized resellers.

If the product does not operate as warranted during the applicable warranty period, PureLink shall, at its option and expense, execute one of the following as necessary:

1. Repair the defective product or part
2. Deliver to customer and equivalent product or part to replace the defective item
3. Refund to customer the purchase price paid for the defective product

All products that are replaced become the property of PureLink. Replacement products may be new or reconditioned. Repaired or replacement products or parts come with a 90-day warranty or the remainder of the warranty period. PureLink shall not be responsible for any software, firmware, information, or memory data loss of contained in, stored on, or integrated with any products returned to PureLink for repair under warranty.

Customer Service

Any customer service inquiries can be submitted electronically through the Q&A form on our website at www.purelinkav.com. For immediate assistance please contact us at (201) 488-3232 to reach our customer care or tech support team.

FCC/CE Statement

This device complies with part 15 of FCC Rules and EN 55022/55024/61000-3 for CE certification. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must not accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 and 2 of FCC Rules and EN 55022/55024/61000-3 for CE certification. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and. if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult a service representative for help.

Properly shielded and grounded cables and connectors must be used in order to comply with FCC/CE emission limits. Changes or modifications not expressly approved by the party responsible for compliance could void the user s authority to operate the equipment.

UL Statement

This device has completed a UL Commercial Inspection and Testing Services for the multimode HDMI cable complied with VW-1 under UL 758. it is validated by the UL file number SV2038 and project number 04CA05353.